



# NORLITE, LLC

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PHONE: (518) 235-0401  
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January 14, 2014

Ms. Nancy Baker  
Deputy Regional Permit Administrator  
New York State Department of Environmental Conservation  
Region 4  
1130 North Westcott Road  
Schenectady, NY 12306-2014

RETURN RECEIPT REQUESTED VIA EMAIL

Mr. Kenneth Eng  
Air Compliance Branch  
United States Environmental Protection Agency  
Region 2  
290 Broadway  
New York, NY 10007-1866

RETURN RECEIPT REQUESTED VIA EMAIL

Re: Norlite Corporation-MACT Excessive Exceedances Report  
Kiln 1: 12/12/13 – 01/13/14  
Kiln 2: 12/12/13 – 01/13/14

Dear Sir/Madam:

In accordance with 40 CFR 63.1206(c)(3)(vi), the Norlite, LLC (Norlite) is submitting an "Excessive Exceedance Report" for the timeframe of 12/12/13 thru 01/13/14. The attached document explains each of the "malfunctions" for Kilns One and Two.

The results of the investigation concluded a majority of the waste feed cutoffs were a result of the span limit associated with the stack gas flow monitor. The majority of the stack gas cutoffs were attributed to water vapor in the stack condensing from the extreme cold and wind blowing out of the North and West. The condensed water vapor droplets contacted the stack gas probe causing it to fault. Attempts were made to adjust the ID fan speed to combat the droplet formation without significant success. As has been stated previously, Norlite has been working with the Department to approve the Optical Flow Sensor Technology for measuring flow rate in the kiln system. Norlite submitted a proposal to the Department on December 24, 2013 requesting approval to make the Optical Flow Sensor the approved and certified technology on January 20, 2014. Norlite is in the process of completing the final programming to calculate the velocity into standard cubic feet per minute. A meeting between Norlite and the Department has been set for Wednesday, January 15, 2014 to discuss the final pieces of the proposal which has been submitted. See below for a history of what has occurred so far.

Norlite has been working help resolve stack gas span cutoffs in general for almost two years. Norlite has been working with the Department to install a new optical flow technology to monitor stack gas flow rate. A test unit has been installed on Kiln 1 and tested to obtain additional information to be used in future calculations. Norlite conducted an official RATA test on the optical flow sensor in Kiln 1 on November 26, 2013 which yielded very good results. The final RATA Testing report has been received by Norlite and submitted along with a proposal for implementing official use of the unit to the Department on December 24, 2013. Norlite is hopeful to have final approval to officially use the unit on Kiln 1 by the end of January 2014. After final approval is given for the unit on Kiln 1, Norlite will install a unit on Kiln 2 with an



## NORLITE, LLC

expedited schedule for completion which will hopefully see the unit in certified operation by the end of March 2014.

Norlite has also been working with the Department to improve LGF delivery and handling at the kilns to address these types of cutoffs. In April 2013, the Department conditionally approved Norlite's plan to remove the minimum LLGF Line Pressure requirement, allow a positive displacement pump to be used for fuel flow control, and allow the use of a recirculation line for use during times when off LGF. The Department also requested a six month study be conducted without a minimum LLGF Line Pressure requirement. The study was started on May 01, 2103 and completed on October 31, 2013. Norlite conducted an extensive search for a positive displacement pump which would allow variable speed control, have tight pump tolerance, and have suitable reliability for long term use. The results of the six month study which summarized over 4 million lines of operational data between the two kilns was submitted to the DEC on December 5, 2013. Based from the results of the six month study, Norlite feels the data supports the removal of the minimum LLGF Line Pressure requirement. Norlite has concluded that a positive displacement pump which meets all the needed criteria does not exist. As stated previously, Norlite has acquired the assistance of a process engineering firm to assist in the search for a suitable positive displacement pump and conduct an overall review of the entire kiln feed system to provide a proposal for improving the kiln fuel feed system. The process engineering firm has been supplied with facility drawings, had several discussions with Norlite personnel, and taken a facility tour to better understand the facility operations as they relate to fuel delivery at the kilns. Norlite submitted a proposal provided by SPEC Engineering to the Department on December 31, 2013 for review and approval. The proposal was to use an automated control loop to control pressures and fuel flow rates at the kilns. On January 13, 2014, the Department approved the overall concept of the proposal with the requirement that additional engineering specifications be provided by certain dates for ultimate approval of the entire project.

All of the malfunctions that occurred were consistent with our Startup, Shutdown and Malfunction Plan (SSMP). As approved by the NYSDEC on February 6, 2006, these reports are being sent electronically.

Should you have any questions regarding this letter, please contact me at (518) 235-0401 or email at: [tom.vanvranken@tradebe.com](mailto:tom.vanvranken@tradebe.com).

Sincerely,

*Thomas Van Vranken*

Thomas Van Vranken  
Environmental Manager

### Attachments

ecc: Don Spencer, NYDEC – R4 w/attachments  
James Lansing, NYSDEC – CO w/attachments  
Joseph Hadersbeck, NYSDEC – R4w/attachments  
Jim Quinn, NYSDEC – R4 w/attachments  
Tita LaGrimas – Tradebe



NORLITE, LLC  
MACT EXCEEDANCE REPORT - KILN 1  
12/12/13 - 01/13/14

Start Date	Start Time	End Date	End Time	Downtime	#	Event	Cause	Parameter	Limit	Corrective Action
12/16/2013	7:37:41	12/16/2013	7:58:01	0:20:20	316	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe	Stack Gas Flow Rate	Span	Reduced the ID Fan Speed
12/16/2013	7:43:59	12/16/2013	7:45:29	0:01:30	317	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe	Stack Gas Flow Rate	Span	Reduced the ID Fan Speed
12/18/2013	12:24:45	12/18/2013	13:26:47	1:02:02	318	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe	Stack Gas Flow Rate	Span	Reduced the ID Fan Speed
12/18/2013	13:30:27	12/18/2013	14:09:59	0:39:32	319	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to the Stack Gas Probe Being Dirty and Wet From Contact With Water Droplets	Stack Gas Flow Rate	Span	I & E Cleaned and Dried the Probe Surface
12/18/2013	14:30:07	12/18/2013	14:30:39	0:00:32	320	Malfunction	The Operators Were Controlling Fuel Flow Using Valves Which Caused a Fuel Surge to Occur, Affecting the Frontend Differential Kiln Pressure	Front Kiln Pressure, 1 Second Delay	Opl	Third Party Process Engineers Are Reviewing the Feed System to Provide Operational Improvements
12/18/2013	14:38:42	12/18/2013	14:39:22	0:00:40	321	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe	Stack Gas Flow Rate	Span	The Mist Pad Rinse Water Flow Rate Was Decreased
12/18/2013	14:47:32	12/18/2013	14:50:48	0:03:16	322	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe	Stack Gas Flow Rate	Span	The Mist Pad Rinse Water Flow Rate Was Decreased
12/19/2013	17:03:04	12/19/2013	17:05:18	0:02:14	323	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Scrubber pH Span. Inspection of the System Occurred to Verify Operation	Scrubber pH	Span	The WWTP Mechanic Cleared the Soda Ash Line Header in the Kiln 1 Scrubber Building
12/20/2013	4:22:05	12/20/2013	4:35:13	0:13:08	324	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe	Stack Gas Flow Rate	Span	The Mist Pad Rinse Water Flow Rate Was Decreased
12/20/2013	9:06:01	12/20/2013	9:06:44	0:00:43	325	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Scrubber pH Span. Inspection of the System Occurred to Verify Operation	Scrubber pH	Span	I&E Cleaned and Calibrated the pH Probe
12/21/2013	7:24:22	12/21/2013	7:29:28	0:05:06	326	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe	Stack Gas Flow Rate	Span	The Mist Pad Rinse Water Flow Rate Was Decreased
12/25/2013	12:03:16	12/25/2013	13:08:12	1:04:56	327	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe	Stack Gas Flow Rate	Span	The Mist Pad Rinse Water Flow Rate Was Decreased
12/26/2013	9:07:09	12/26/2013	9:07:25	0:00:16	328	Malfunction	The Operators Were Controlling Fuel Flow Using Valves Which Caused a Fuel Surge to Occur, Affecting the Frontend Differential Kiln Pressure	Front Kiln Pressure, 1 Second Delay	Opl	Third Party Process Engineers Are Reviewing the Feed System to Provide Operational Improvements



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MACT EXCEEDANCE REPORT - KILN 1  
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Start Date	Start Time	End Date	End Time	Downtime	#	Event	Cause	Parameter	Limit	Corrective Action
12/27/2013	17:20:28	12/27/2013	17:53:50	0:33:22	329	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to the Cold and Wind Out of the South Causing the Water Vapor in the Stack to Condense and Contact the Stack Gas Probe. The Probe Faulted as a Result.	Stack Gas Flow Rate	Span	The Kiln Was Switched to Oil and ID Fan Adjustments Mad to Try to Compensate for the Water Vapor Condensing
12/27/2013	19:00:40	12/27/2013	19:42:10	0:41:30	330	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to the Cold and Wind Out of the South Causing the Water Vapor in the Stack to Condense and Contact the Stack Gas Probe. The Probe Faulted as a Result.	Stack Gas Flow Rate	Span	The Kiln Was Switched to Oil and ID Fan Adjustments Mad to Try to Compensate for the Water Vapor Condensing
12/28/2013	0:55:05	12/28/2013	0:58:16	0:03:11	331	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to the Cold and Wind Out of the South Causing the Water Vapor in the Stack to Condense and Contact the Stack Gas Probe. The Probe Faulted as a Result.	Stack Gas Flow Rate	Span	The Kiln Was Switched to Oil and ID Fan Adjustments Mad to Try to Compensate for the Water Vapor Condensing
12/28/2013	1:07:59	12/28/2013	1:08:21	0:00:22	332	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to the Cold and Wind Out of the South Causing the Water Vapor in the Stack to Condense and Contact the Stack Gas Probe. The Probe Faulted as a Result.	Stack Gas Flow Rate	Span	The Kiln Was Switched to Oil and ID Fan Adjustments Mad to Try to Compensate for the Water Vapor Condensing
12/28/2013	2:11:56	12/28/2013	2:25:54	0:13:58	333	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to the Cold and Wind Out of the South Causing the Water Vapor in the Stack to Condense and Contact the Stack Gas Probe. The Probe Faulted as a Result.	Stack Gas Flow Rate	Span	The Kiln Was Switched to Oil and ID Fan Adjustments Mad to Try to Compensate for the Water Vapor Condensing
12/28/2013	2:37:38	12/28/2013	2:38:29	0:00:51	334	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to the Cold and Wind Out of the South Causing the Water Vapor in the Stack to Condense and Contact the Stack Gas Probe. The Probe Faulted as a Result.	Stack Gas Flow Rate	Span	The Kiln Was Switched to Oil and ID Fan Adjustments Mad to Try to Compensate for the Water Vapor Condensing
12/28/2013	4:18:42	12/28/2013	4:19:09	0:00:27	335	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to the Cold and Wind Out of the South Causing the Water Vapor in the Stack to Condense and Contact the Stack Gas Probe. The Probe Faulted as a Result.	Stack Gas Flow Rate	Span	The Kiln Was Switched to Oil and ID Fan Adjustments Mad to Try to Compensate for the Water Vapor Condensing
12/28/2013	4:30:31	12/28/2013	4:40:28	0:09:57	336	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to the Cold and Wind Out of the South Causing the Water Vapor in the Stack to Condense and Contact the Stack Gas Probe. The Probe Faulted as a Result.	Stack Gas Flow Rate	Span	The Kiln Was Switched to Oil and ID Fan Adjustments Mad to Try to Compensate for the Water Vapor Condensing



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Start Date	Start Time	End Date	End Time	Downtime	#	Event	Cause	Parameter	Limit	Corrective Action
12/28/2013	4:54:22	12/28/2013	4:56:10	0:01:48	337	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to the Cold and Wind Out of the South Causing the Water Vapor in the Stack to Condense and Contact the Stack Gas Probe. The Probe Faulted as a Result.	Stack Gas Flow Rate	Span	The Kiln Was Switched to Oil and ID Fan Adjustments Mad to Try to Compensate for the Water Vapor Condensing
12/28/2013	5:37:48	12/28/2013	5:38:27	0:00:39	338	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to the Cold and Wind Out of the South Causing the Water Vapor in the Stack to Condense and Contact the Stack Gas Probe. The Probe Faulted as a Result.	Stack Gas Flow Rate	Span	The Kiln Was Switched to Oil and ID Fan Adjustments Mad to Try to Compensate for the Water Vapor Condensing
12/28/2013	5:43:28	12/28/2013	6:07:47	0:24:19	339	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to the Cold and Wind Out of the South Causing the Water Vapor in the Stack to Condense and Contact the Stack Gas Probe. The Probe Faulted as a Result.	Stack Gas Flow Rate	Span	The Kiln Was Switched to Oil and ID Fan Adjustments Mad to Try to Compensate for the Water Vapor Condensing
12/28/2013	6:20:32	12/28/2013	6:21:39	0:01:07	340	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to the Cold and Wind Out of the South Causing the Water Vapor in the Stack to Condense and Contact the Stack Gas Probe. The Probe Faulted as a Result.	Stack Gas Flow Rate	Span	The Kiln Was Switched to Oil and ID Fan Adjustments Mad to Try to Compensate for the Water Vapor Condensing
12/28/2013	6:27:21	12/28/2013	6:53:29	0:26:08	341	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to the Cold and Wind Out of the South Causing the Water Vapor in the Stack to Condense and Contact the Stack Gas Probe. The Probe Faulted as a Result.	Stack Gas Flow Rate	Span	The Kiln Was Switched to Oil and ID Fan Adjustments Mad to Try to Compensate for the Water Vapor Condensing
12/28/2013	7:13:51	12/28/2013	7:14:22	0:00:31	342	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to the Cold and Wind Out of the South Causing the Water Vapor in the Stack to Condense and Contact the Stack Gas Probe. The Probe Faulted as a Result.	Stack Gas Flow Rate	Span	The Kiln Was Switched to Oil and ID Fan Adjustments Mad to Try to Compensate for the Water Vapor Condensing
12/28/2013	7:46:13	12/28/2013	10:37:45	2:51:32	343	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to the Mist Pad Being Plugged and Excess Water Contacting the Stack Gas Probe	Stack Gas Flow Rate	Span	I & E Cleaned Probe and the Mist Pad Was Rinsed
12/28/2013	10:45:20	12/28/2013	10:46:32	0:01:12	344	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe	Stack Gas Flow Rate	Span	The Mist Pad Rinse Water Flow Rate Was Decreased
12/28/2013	11:00:52	12/28/2013	11:01:34	0:00:42	345	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe	Stack Gas Flow Rate	Span	The Mist Pad Rinse Water Flow Rate Was Decreased



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12/12/13 - 01/13/14

Start Date	Start Time	End Date	End Time	Downtime	#	Event	Cause	Parameter	Limit	Corrective Action
12/28/2013	11:13:37	12/28/2013	11:14:25	0:00:48	346	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe	Stack Gas Flow Rate	Span	The Mist Pad Rinse Water Flow Rate Was Decreased
12/28/2013	11:21:11	12/28/2013	11:21:58	0:00:47	347	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe	Stack Gas Flow Rate	Span	The Mist Pad Rinse Water Flow Rate Was Decreased
12/28/2013	21:31:56	12/28/2013	21:43:46	0:11:50	348	Malfunction	The Operators Were Controlling Fuel Flow Using Valves Which Caused a Fuel Surge to Occur Triggering the LGF Flow Rate Span Limit	LGF Flow	Span	Third Party Process Engineers Are Reviewing the Feed System to Provide Operational Improvements
1/1/2014	14:02:54	1/1/2014	14:27:43	0:24:49	1	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Extreme Cold and Wind Out of the North, Causing the Water Vapor in the Stack to Condense and Contact the Stack Gas Probe. The Probe Faulted as a Result.	Stack Gas Flow Rate	Span	The Kiln Was Switched to Oil and ID Fan Adjustments Mad to Try to Combat the Cold Temperatures
1/1/2014	15:23:06	1/1/2014	17:23:24	2:00:18	2	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Extreme Cold and Wind Out of the North, Causing the Water Vapor in the Stack to Condense and Contact the Stack Gas Probe. The Probe Faulted as a Result.	Stack Gas Flow Rate	Span	The Kiln Was Switched to Oil and ID Fan Adjustments Mad to Try to Combat the Cold Temperatures
1/1/2014	18:58:56	1/1/2014	19:00:02	0:01:06	3	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Extreme Cold and Wind Out of the North, Causing the Water Vapor in the Stack to Condense and Contact the Stack Gas Probe. The Probe Faulted as a Result.	Stack Gas Flow Rate	Span	The Kiln Was Switched to Oil and ID Fan Adjustments Mad to Try to Combat the Cold Temperatures
1/2/2014	12:17:53	1/2/2014	13:26:04	1:08:11	4	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Extreme Cold and Wind Out of the North, Causing the Water Vapor in the Stack to Condense and Contact the Stack Gas Probe. The Probe Faulted as a Result.	Stack Gas Flow Rate	Span	The Kiln Was Switched to Oil and ID Fan Adjustments Mad to Try to Combat the Cold Temperatures
1/2/2014	13:28:43	1/2/2014	13:36:17	0:07:34	5	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Extreme Cold and Wind Out of the North, Causing the Water Vapor in the Stack to Condense and Contact the Stack Gas Probe. The Probe Faulted as a Result.	Stack Gas Flow Rate	Span	The Kiln Was Switched to Oil and ID Fan Adjustments Mad to Try to Combat the Cold Temperatures
1/2/2014	15:05:00	1/2/2014	15:57:30	0:52:30	6	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Extreme Cold and Wind Out of the North, Causing the Water Vapor in the Stack to Condense and Contact the Stack Gas Probe. The Probe Faulted as a Result.	Stack Gas Flow Rate	Span	The Kiln Was Switched to Oil and ID Fan Adjustments Mad to Try to Combat the Cold Temperatures
1/2/2014	16:20:34	1/2/2014	16:21:08	0:00:34	7	Malfunction	The Operators Were Controlling Fuel Flow Using Valves Which Caused a Fuel Surge to Occur, Affecting the Frontend Differential Kiln Pressure	Front Kiln Pressure, 1 Second Delay	Opl	Third Party Process Engineers Are Reviewing the Feed System to Provide Operational Improvements





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MACT EXCEEDANCE REPORT - KILN 1  
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Start Date	Start Time	End Date	End Time	Downtime	#	Event	Cause	Parameter	Limit	Corrective Action
1/4/2014	21:36:30	1/4/2014	21:36:52	0:00:22	8	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Extreme Cold and Wind Out of the North, Causing the Water Vapor in the Stack to Condense and Contact the Stack Gas Probe. The Probe Faulted as a Result.	Stack Gas Flow Rate	Span	The Kiln Was Switched to Oil and ID Fan Adjustments Mad to Try to Combat the Cold Temperatures
1/4/2014	21:36:38	1/4/2014	21:37:38	0:01:00	9	Malfunction	The Operators Were Controlling Fuel Flow Using Valves Which Caused a Fuel Surge to Occur, Affecting the Frontend Differential Kiln Pressure	Front Kiln Pressure, 1 Second Delay	Opl	Third Party Process Engineers Are Reviewing the Feed System to Provide Operational Improvements
1/4/2014	22:58:17	1/4/2014	22:59:04	0:00:47	10	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Extreme Cold and Wind Out of the North, Causing the Water Vapor in the Stack to Condense and Contact the Stack Gas Probe. The Probe Faulted as a Result.	Stack Gas Flow Rate	Span	The Kiln Was Switched to Oil and ID Fan Adjustments Mad to Try to Combat the Cold Temperatures
1/4/2014	23:03:12	1/4/2014	23:03:41	0:00:29	11	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Extreme Cold and Wind Out of the North, Causing the Water Vapor in the Stack to Condense and Contact the Stack Gas Probe. The Probe Faulted as a Result.	Stack Gas Flow Rate	Span	The Kiln Was Switched to Oil and ID Fan Adjustments Mad to Try to Combat the Cold Temperatures
1/4/2014	23:06:48	1/4/2014	23:43:10	0:36:22	12	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Extreme Cold and Wind Out of the North, Causing the Water Vapor in the Stack to Condense and Contact the Stack Gas Probe. The Probe Faulted as a Result.	Stack Gas Flow Rate	Span	The Kiln Was Switched to Oil and ID Fan Adjustments Mad to Try to Combat the Cold Temperatures
1/5/2014	1:26:38	1/5/2014	1:27:27	0:00:49	13	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Extreme Cold and Wind Out of the North, Causing the Water Vapor in the Stack to Condense and Contact the Stack Gas Probe. The Probe Faulted as a Result.	Stack Gas Flow Rate	Span	The Kiln Was Switched to Oil and ID Fan Adjustments Mad to Try to Combat the Cold Temperatures
1/5/2014	1:33:21	1/5/2014	1:48:28	0:15:07	14	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Extreme Cold and Wind Out of the North, Causing the Water Vapor in the Stack to Condense and Contact the Stack Gas Probe. The Probe Faulted as a Result.	Stack Gas Flow Rate	Span	The Kiln Was Switched to Oil and ID Fan Adjustments Mad to Try to Combat the Cold Temperatures
1/10/2014	10:15:54	1/10/2014	10:17:47	0:01:53	15	Malfunction	The Operators Were Controlling Fuel Flow Using Valves Which Caused a Fuel Surge to Occur, Affecting the Frontend Differential Kiln Pressure / High CO's	Front Kiln Pressure, 1 Second Delay	Opl	Third Party Process Engineers Are Reviewing the Feed System to Provide Operational Improvements



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MACT EXCEEDANCE REPORT - KILN 2  
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Start Date	Start Time	End Date	End Time	Downtime	#	Event	Cause	Parameter	Limit	Corrective Action
12/28/2013	19:43:40	12/28/2013	19:44:11	0:00:31	144	Malfunction	The Operators Were Controlling Fuel Flow Using Valves Which Caused a Fuel Surge to Occur, Affecting the Frontend Differential Kiln Pressure	Front Kiln Pressure, 1 Second Delay	Opl	Third Party Process Engineers Are Reviewing the Feed System to Provide Operational Improvements
1/2/2014	0:59:20	1/2/2014	1:07:46	0:08:26	1	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Extreme Cold and Wind Out of the North, Causing the Water Vapor in the Stack to Condense and Contact the Stack Gas Probe. The Probe Faulted As a Result.	Stack Gas Flow Rate	Span	The Kiln Was Switched to Oil and ID Fan Adjustments Made to Try to Combat the Cold Temperatures
1/2/2014	1:13:06	1/2/2014	1:13:29	0:00:23	2	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Extreme Cold and Wind Out of the North, Causing the Water Vapor in the Stack to Condense and Contact the Stack Gas Probe. The Probe Faulted As a Result.	Stack Gas Flow Rate	Span	The Kiln Was Switched to Oil and ID Fan Adjustments Made to Try to Combat the Cold Temperatures
1/2/2014	1:39:07	1/2/2014	1:39:31	0:00:24	3	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Extreme Cold and Wind Out of the North, Causing the Water Vapor in the Stack to Condense and Contact the Stack Gas Probe. The Probe Faulted As a Result.	Stack Gas Flow Rate	Span	The Kiln Was Switched to Oil and ID Fan Adjustments Made to Try to Combat the Cold Temperatures
1/2/2014	1:41:39	1/2/2014	1:48:18	0:06:39	4	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Extreme Cold and Wind Out of the North, Causing the Water Vapor in the Stack to Condense and Contact the Stack Gas Probe. The Probe Faulted As a Result.	Stack Gas Flow Rate	Span	The Kiln Was Switched to Oil and ID Fan Adjustments Made to Try to Combat the Cold Temperatures
1/2/2014	1:58:54	1/2/2014	1:59:14	0:00:20	5	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Extreme Cold and Wind Out of the North, Causing the Water Vapor in the Stack to Condense and Contact the Stack Gas Probe. The Probe Faulted As a Result.	Stack Gas Flow Rate	Span	The Kiln Was Switched to Oil and ID Fan Adjustments Made to Try to Combat the Cold Temperatures
1/2/2014	1:59:57	1/2/2014	7:48:00	5:48:03	6	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Extreme Cold and Wind Out of the North Causing the Water Vapor in the Stack to Condense and Contact the Stack Gas Probe Causing it to Fault / Shale Feed Had Stopped Due to Freezing	Stack Gas Flow Rate	Span	The Kiln Was Switched to Oil and ID Fan Adjustments Made to Try to Combat the Cold Temperatures / The Shale Feed Was Thawed to Establish Shale Feed
1/2/2014	7:54:13	1/2/2014	7:55:08	0:00:55	7	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Extreme Cold and Wind Out of the North, Causing the Water Vapor in the Stack to Condense and Contact the Stack Gas Probe. The Probe Faulted As a Result.	Stack Gas Flow Rate	Span	The Kiln Was Switched to Oil and ID Fan Adjustments Made to Try to Combat the Cold Temperatures





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Start Date	Start Time	End Date	End Time	Downtime	#	Event	Cause	Parameter	Limit	Corrective Action
1/2/2014	7:56:23	1/2/2014	8:33:53	0:37:30	8	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Extreme Cold and Wind Out of the North, Causing the Water Vapor in the Stack to Condense and Contact the Stack Gas Probe. The Probe Faulted As a Result.	Stack Gas Flow Rate	Span	The Kiln Was Switched to Oil and ID Fan Adjustments Made to Try to Combat the Cold Temperatures
1/2/2014	9:35:40	1/2/2014	9:39:48	0:04:08	9	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Extreme Cold and Wind Out of the North, Causing the Water Vapor in the Stack to Condense and Contact the Stack Gas Probe. The Probe Faulted As a Result.	Stack Gas Flow Rate	Span	The Kiln Was Switched to Oil and ID Fan Adjustments Made to Try to Combat the Cold Temperatures
1/2/2014	20:57:37	1/2/2014	21:09:55	0:12:18	10	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Extreme Cold and Wind Out of the North, Causing the Water Vapor in the Stack to Condense and Contact the Stack Gas Probe. The Probe Faulted As a Result.	Stack Gas Flow Rate	Span	The Kiln Was Switched to Oil and ID Fan Adjustments Made to Try to Combat the Cold Temperatures
1/3/2014	1:01:03	1/3/2014	2:08:19	1:07:16	11	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Extreme Cold and Wind Out of the North, Causing the Water Vapor in the Stack to Condense and Contact the Stack Gas Probe. The Probe Faulted As a Result.	Stack Gas Flow Rate	Span	The Kiln Was Switched to Oil and ID Fan Adjustments Made to Try to Combat the Cold Temperatures
1/3/2014	3:13:51	1/3/2014	3:14:21	0:00:30	12	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Extreme Cold and Wind Out of the North, Causing the Water Vapor in the Stack to Condense and Contact the Stack Gas Probe. The Probe Faulted As a Result.	Stack Gas Flow Rate	Span	The Kiln Was Switched to Oil and ID Fan Adjustments Made to Try to Combat the Cold Temperatures
1/3/2014	3:17:26	1/3/2014	3:17:51	0:00:25	13	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Extreme Cold and Wind Out of the North, Causing the Water Vapor in the Stack to Condense and Contact the Stack Gas Probe. The Probe Faulted As a Result.	Stack Gas Flow Rate	Span	The Kiln Was Switched to Oil and ID Fan Adjustments Made to Try to Combat the Cold Temperatures
1/3/2014	3:29:45	1/3/2014	3:30:09	0:00:24	14	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Extreme Cold and Wind Out of the North, Causing the Water Vapor in the Stack to Condense and Contact the Stack Gas Probe. The Probe Faulted As a Result.	Stack Gas Flow Rate	Span	The Kiln Was Switched to Oil and ID Fan Adjustments Made to Try to Combat the Cold Temperatures
1/3/2014	3:52:54	1/3/2014	3:53:45	0:00:51	15	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Extreme Cold and Wind Out of the North, Causing the Water Vapor in the Stack to Condense and Contact the Stack Gas Probe. The Probe Faulted As a Result.	Stack Gas Flow Rate	Span	The Kiln Was Switched to Oil and ID Fan Adjustments Made to Try to Combat the Cold Temperatures



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1/3/2014	12:05:49	1/3/2014	12:06:38	0:00:49	16	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Extreme Cold and Wind Out of the North, Causing the Water Vapor in the Stack to Condense and Contact the Stack Gas Probe. The Probe Faulted As a Result.	Stack Gas Flow Rate	Span	The Kiln Was Switched to Oil and ID Fan Adjustments Made to Try to Combat the Cold Temperatures
1/3/2014	12:16:35	1/3/2014	12:17:02	0:00:27	17	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Extreme Cold and Wind Out of the North, Causing the Water Vapor in the Stack to Condense and Contact the Stack Gas Probe. The Probe Faulted As a Result.	Stack Gas Flow Rate	Span	The Kiln Was Switched to Oil and ID Fan Adjustments Made to Try to Combat the Cold Temperatures
1/3/2014	12:24:34	1/3/2014	12:25:03	0:00:29	18	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Extreme Cold and Wind Out of the North, Causing the Water Vapor in the Stack to Condense and Contact the Stack Gas Probe. The Probe Faulted As a Result.	Stack Gas Flow Rate	Span	The Kiln Was Switched to Oil and ID Fan Adjustments Made to Try to Combat the Cold Temperatures
1/3/2014	12:27:52	1/3/2014	12:28:18	0:00:26	19	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Extreme Cold and Wind Out of the North, Causing the Water Vapor in the Stack to Condense and Contact the Stack Gas Probe. The Probe Faulted As a Result.	Stack Gas Flow Rate	Span	The Kiln Was Switched to Oil and ID Fan Adjustments Made to Try to Combat the Cold Temperatures
1/3/2014	14:48:22	1/3/2014	14:49:20	0:00:58	20	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Scrubber Recirc. Rate Due to the Water Supply Line in the Scrubber Starting to Freeze	Scrubber Recirc. Rate	Span	Heat Was Applied to the Water Line to Stop Freezing
1/3/2014	14:53:30	1/3/2014	14:53:51	0:00:21	21	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Extreme Cold and Wind Out of the North, Causing the Water Vapor in the Stack to Condense and Contact the Stack Gas Probe. The Probe Faulted As a Result.	Stack Gas Flow Rate	Span	The Kiln Was Switched to Oil and ID Fan Adjustments Made to Try to Combat the Cold Temperatures
1/3/2014	15:16:50	1/3/2014	15:17:09	0:00:19	22	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Extreme Cold and Wind Out of the North, Causing the Water Vapor in the Stack to Condense and Contact the Stack Gas Probe. The Probe Faulted As a Result.	Stack Gas Flow Rate	Span	The Kiln Was Switched to Oil and ID Fan Adjustments Made to Try to Combat the Cold Temperatures
1/4/2014	13:53:58	1/4/2014	14:58:32	1:04:34	23	Malfunction	The Operators Were Controlling Fuel Flow Using Valves Which Caused a Fuel Surge to Occur, Affecting the Rear Chamber Pressure System	Back Chamber Pressure, 1 Second Delay		Third Party Process Engineers Are Reviewing the Feed System to Provide Operational Improvements



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1/5/2014	3:00:21	1/5/2014	3:01:42	0:01:21	24	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Scrubber Recirc. Span Due to the Scrubber Recirculation Flow Rate Being Set Higher to Prevent the Lines From Freezing in the Extreme Cold	Scrubber Recirc. Rate	Span	The Flow Rate Was Decreased and Additional Heat Placed in the Scrubber Building
1/5/2014	3:03:39	1/5/2014	3:04:04	0:00:25	25	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Scrubber Recirc. Span Due to the Scrubber Recirculation Flow Rate Being Set Higher to Prevent the Lines From Freezing in the Extreme Cold	Scrubber Recirc. Rate	Span	The Flow Rate Was Decreased and Additional Heat Placed in the Scrubber Building
1/5/2014	3:09:19	1/5/2014	3:09:52	0:00:33	26	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Scrubber Recirc. Span Due to the Scrubber Recirculation Flow Rate Being Set Higher to Prevent the Lines From Freezing in the Extreme Cold	Scrubber Recirc. Rate	Span	The Flow Rate Was Decreased and Additional Heat Placed in the Scrubber Building
1/5/2014	3:19:03	1/5/2014	3:19:44	0:00:41	27	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Scrubber Recirc. Span Due to the Scrubber Recirculation Flow Rate Being Set Higher to Prevent the Lines From Freezing in the Extreme Cold	Scrubber Recirc. Rate	Span	The Flow Rate Was Decreased and Additional Heat Placed in the Scrubber Building
1/6/2014	23:53:30	1/6/2014	23:59:41	0:06:11	28	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Extreme Cold and Wind Out of the West, Causing the Water Vapor in the Stack to Condense and Contact the Stack Gas Probe. The Probe Faulted As a Result.	Stack Gas Flow Rate	Span	The Kiln Was Switched to Oil and ID Fan Adjustments Made to Try to Combat the Cold Temperatures
1/7/2014	0:36:13	1/7/2014	0:53:23	0:17:10	29	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Extreme Cold and Wind Out of the West, Causing the Water Vapor in the Stack to Condense and Contact the Stack Gas Probe. The Probe Faulted As a Result.	Stack Gas Flow Rate	Span	The Kiln Was Switched to Oil and ID Fan Adjustments Made to Try to Combat the Cold Temperatures
1/7/2014	4:09:15	1/7/2014	4:11:15	0:02:00	30	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Extreme Cold and Wind Out of the West, Causing the Water Vapor in the Stack to Condense and Contact the Stack Gas Probe. The Probe Faulted As a Result.	Stack Gas Flow Rate	Span	The Kiln Was Switched to Oil and ID Fan Adjustments Made to Try to Combat the Cold Temperatures
1/7/2014	4:46:53	1/7/2014	6:49:23	2:02:30	31	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Extreme Cold and Wind Out of the West, Causing the Water Vapor in the Stack to Condense and Contact the Stack Gas Probe. The Probe Faulted As a Result.	Stack Gas Flow Rate	Span	The Kiln Was Switched to Oil and ID Fan Adjustments Made to Try to Combat the Cold Temperatures



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1/7/2014	21:47:06	1/7/2014	23:19:22	1:32:16	32	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Extreme Cold and Wind Out of the West, Causing the Water Vapor in the Stack to Condense and Contact the Stack Gas Probe. The Probe Faulted As a Result.	Stack Gas Flow Rate	Span	The Kiln Was Switched to Oil and ID Fan Adjustments Made to Try to Combat the Cold Temperatures
1/8/2014	5:22:27	1/8/2014	5:28:54	0:06:27	33	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Extreme Cold and Wind Out of the West, Causing the Water Vapor in the Stack to Condense and Contact the Stack Gas Probe. The Probe Faulted As a Result.	Stack Gas Flow Rate	Span	The Kiln Was Switched to Oil and ID Fan Adjustments Made to Try to Combat the Cold Temperatures
1/8/2014	5:43:13	1/8/2014	6:05:27	0:22:14	34	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Extreme Cold and Wind Out of the West, Causing the Water Vapor in the Stack to Condense and Contact the Stack Gas Probe. The Probe Faulted As a Result.	Stack Gas Flow Rate	Span	The Kiln Was Switched to Oil and ID Fan Adjustments Made to Try to Combat the Cold Temperatures
1/8/2014	6:21:08	1/8/2014	6:52:16	0:31:08	35	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Extreme Cold and Wind Out of the West, Causing the Water Vapor in the Stack to Condense and Contact the Stack Gas Probe. The Probe Faulted As a Result.	Stack Gas Flow Rate	Span	The Kiln Was Switched to Oil and ID Fan Adjustments Made to Try to Combat the Cold Temperatures
1/8/2014	7:09:16	1/8/2014	7:23:47	0:14:31	36	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Extreme Cold and Wind Out of the West, Causing the Water Vapor in the Stack to Condense and Contact the Stack Gas Probe. The Probe Faulted As a Result.	Stack Gas Flow Rate	Span	The Kiln Was Switched to Oil and ID Fan Adjustments Made to Try to Combat the Cold Temperatures
1/8/2014	7:33:48	1/8/2014	8:46:30	1:12:42	37	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Extreme Cold and Wind Out of the West, Causing the Water Vapor in the Stack to Condense and Contact the Stack Gas Probe. The Probe Faulted As a Result.	Stack Gas Flow Rate	Span	The Kiln Was Switched to Oil and ID Fan Adjustments Made to Try to Combat the Cold Temperatures
1/9/2014	19:04:25	1/9/2014	21:18:41	2:14:16	38	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to the Mist Pad Being Plugged and Excess Water Contacting the Stack Gas Probe	Stack Gas Flow Rate	Span	I & E Cleaned Probe and the Mist Pad Was Rinsed
1/10/2014	6:01:37	1/10/2014	6:35:39	0:34:02	39	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe	Stack Gas Flow Rate	Span	The Mist Pad Rinse Water Flow Rate Was Decreased
1/10/2014	6:35:54	1/10/2014	6:45:41	0:09:47	40	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe	Stack Gas Flow Rate	Span	The Mist Pad Rinse Water Flow Rate Was Decreased



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Start Date	Start Time	End Date	End Time	Downtime	#	Event	Cause	Parameter	Limit	Corrective Action
1/10/2014	7:45:38	1/10/2014	7:46:04	0:00:26	41	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe	Stack Gas Flow Rate	Span	The Mist Pad Rinse Water Flow Rate Was Decreased
1/10/2014	10:18:24	1/10/2014	10:34:24	0:16:00	42	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to the Stack Gas Probe Being Dirty	Stack Gas Flow Rate	Span	I&E Cleaned the Probe and Inspected It for Proper Operation
1/10/2014	10:45:07	1/10/2014	10:46:04	0:00:57	43	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe	Stack Gas Flow Rate	Span	Reduced the ID Fan Speed
1/10/2014	10:48:57	1/10/2014	11:12:12	0:23:15	44	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe	Stack Gas Flow Rate	Span	Reduced the ID Fan Speed
1/10/2014	13:42:17	1/10/2014	13:43:00	0:00:43	45	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe	Stack Gas Flow Rate	Span	Reduced the ID Fan Speed
1/10/2014	13:43:09	1/10/2014	14:47:48	1:04:39	46	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to the Stack Gas Probe Being Dirty	Stack Gas Flow Rate	Span	I&E Cleaned the Probe and Inspected It for Proper Operation
1/12/2014	2:21:04	1/12/2014	3:37:08	1:16:04	47	Malfunction	The Operators Were Controlling Fuel Flow Using Valves Which Caused a Fuel Surge to Occur, Affecting the Frontend Differential Kiln Pressure	Front Kiln Pressure, 1 Second Delay	Opl	Third Party Process Engineers Are Reviewing the Feed System to Provide Operational Improvements
1/12/2014	5:25:27	1/12/2014	5:25:48	0:00:21	48	Malfunction	The Operators Were Controlling Fuel Flow Using Valves Which Caused a Fuel Surge to Occur, Affecting the Frontend Differential Kiln Pressure	Front Kiln Pressure, 1 Second Delay	Opl	Third Party Process Engineers Are Reviewing the Feed System to Provide Operational Improvements
1/12/2014	6:01:08	1/12/2014	6:01:33	0:00:25	49	Malfunction	The Operators Were Controlling Fuel Flow Using Valves Which Caused a Fuel Surge to Occur, Affecting the Frontend Differential Kiln Pressure	Front Kiln Pressure, 1 Second Delay	Opl	Third Party Process Engineers Are Reviewing the Feed System to Provide Operational Improvements
1/12/2014	8:02:51	1/12/2014	8:41:02	0:38:11	50	Malfunction	The Operators Were Controlling Fuel Flow Using Valves Which Caused a Fuel Surge to Occur Caused the Upper Instantaneous Instrument Setting to be Reached for LGF Flow Span	LGF Flow	Span	Third Party Process Engineers Are Reviewing the Feed System to Provide Operational Improvements
1/12/2014	8:41:10	1/12/2014	8:41:46	0:00:36	51	Malfunction	The Operators Were Controlling Fuel Flow Using Valves Which Caused a Fuel Surge to Occur Caused the Upper Instantaneous Instrument Setting to be Reached for LGF Flow Span	LGF Flow	Span	Third Party Process Engineers Are Reviewing the Feed System to Provide Operational Improvements